



**NOAA Teacher at Sea
Clare Wagstaff
Onboard NOAA Ship JOHN N. COBB
June 1 – 14, 2008**

NOAA Teacher at Sea: Clare Wagstaff

NOAA Ship JOHN N. COBB

Mission: Alaskan Harbor Seal – Pupping Phenology & Critical Habitat Study

Geographic Area: Southeast Alaska - Juneau

Date: June 9, 2008

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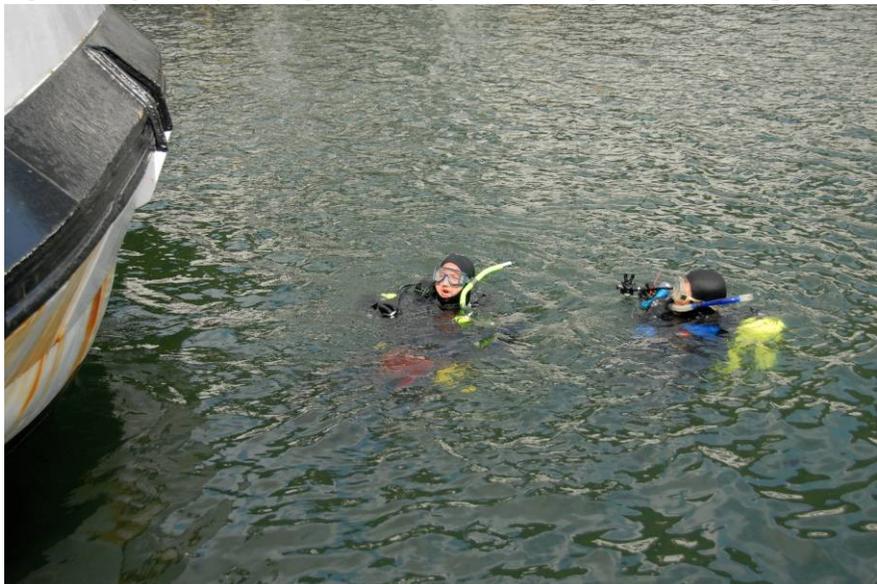
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Final Log

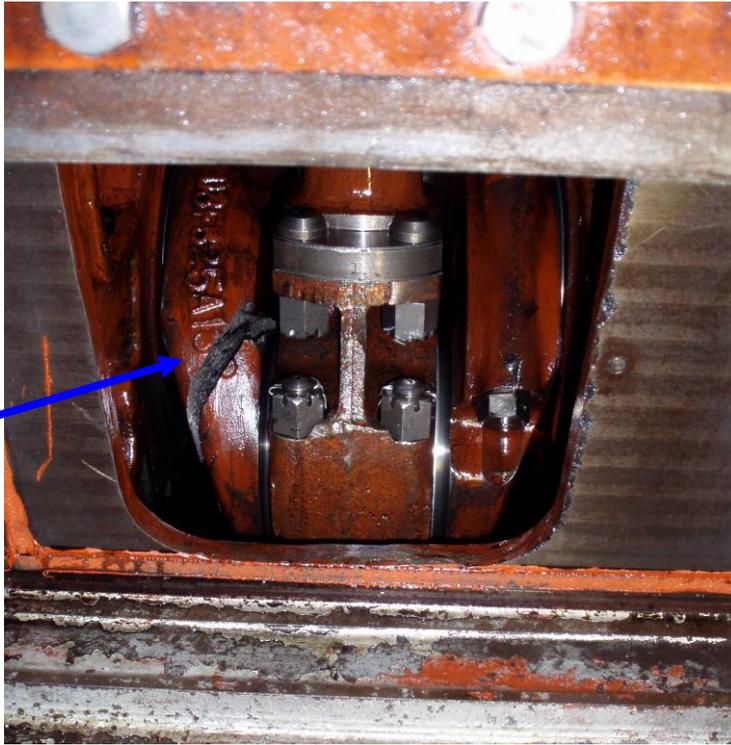
I write this last log sat at the dining table in the galley of the JOHN N. COBB. The last few days have been difficult here on the ship. Unfortunately the mechanical difficulties that the vessel suffered on June 3, have proven to be a little more serious than was originally hoped. The initial diagnosis was of some sort of obstruction, probably fishing line from a trawler, caught in the propeller. After the final leg of our journey, being towed by a much larger NOAA ship, the Rainier, and then finally the last mile by a tug boat, the COBB limped into port in Juneau. Here, the CO and two experienced NOAA divers explored the hull of the ship but unfortunately found nothing obviously wrong to report.

With external problems to the ship ruled out, the crew looked internally into the ship's engine. The engine on the COBB is 59 years old. Similar types were used in the past in trains and submarines.



CO of the COBB and a NOAA diver heading down to explore the hull of the COBB. They took knives with them expecting to find netting caught, but no such luck.

This engine is massive, about 20ft long by 4ft wide. In fact the ship was actually built around the engine, meaning any serious problems with it are extremely difficult to get to and fix. After closer inspection by Sam and Joe, the COBB's engineers, they discovered that the crankshaft had a large fracture in it. With only two engines of this type known to still be in use, the COBB being one of them, finding a spare crankshaft to replace it is likely to be difficult. It seems as if the COBB may have sailed for the last time under her own power.



The photograph shows the huge crack in the crankshaft, which is essential as it connects all the cylinders of the engine together and makes them rotate.

One of the biggest aspects of our cruise was meant to be the last week: studying the haulout sites in two large glacial areas in Tracy Arm and Endicott Arm. With the COBB out of action, I decided to jump onboard a tourist cruise that took a small group of us to the Tracy Arm fjord. It has two picturesque tidewater glaciers are set at the end of this long fjord. Along the journey down the fjord, the step cliff face rises vertically out of the water. The captain maneuvers the small boat around massive icebergs, with the thought of the Titanic always in the back of my head, I am pleased he goes so slowly. These massive chunks of ice that have broken off a glacier and can float for many miles down stream and out to open water. They can be made of ice, possibly a thousand years old, and are very impressive floating ice blocks with an intense, bright blue color.

Light is made up of many colors, all blended together. When light hits an object, some of its colors are absorbed, while others pass through it. Which colors are absorbed depends on the composition of the object: what it is made up of. In this case, the densely packed ice is thick and absorbs red and yellow light, leaving only blue light to be seen. Thinner ice appears white as all light passes through it.

As we got closer to the North Sawyer glacier: seal pups galore! It seemed every direction I looked there was a mother and her pup! Dave had spoken about this area to me and pointed out things to look for. Some distance off from our boat, I could see two juvenile bald eagles sat on the ice in very close proximity to a larger seal. Apparently the afterbirth leaves pinkish / red stains visible on the ice, is a tasty meal for these birds, and they were sat there waiting for the opportune moment to enjoy it!



A massive floating iceberg located in Tracy Arm fjord.

There was though one seal that stood out for all the hundred of others. This seal had a transmitter attached to the top of his head and what I later found out to be, a heart rate monitor around its chest! The seal did look a very strange sight and was easily spooked back into the safety of the water. Earlier this season, Dave had been helping the Alaskan Fish and Game department tag seals in the Endicott Arm area, some 40 miles from here so this seal had traveled some distance. The transmitter attached to its head relays information of its location and details from its heart rate monitor. Measuring the heart rate of the seal is used to study the stress placed on the animal



Just one group of many of the seals present in Tracy Arm.

in regards to cruise boats and their close proximity. A seal under stress will expel more energy as it swims away from the danger. Being in the water also means that more energy is expelled in thermoregulation to maintain its body temperature. From this sighting Dave was able to report back to the Fish and Game department that this seal had been spotted, alive and well!



A tagged harbor seal with a transmitter attached to its head and a heart rate monitor to its chest.

Although this seal did look quite funny to the human observers, it should think it lucky that it was just a little bigger; otherwise a video camera would have been attached too! Not to worry though. As the seal molts, as they do each year, the transmitter and heart rate monitor, which is glued onto the seal's fur, will come off!

While the boat was sat stationary in the water near the South Sawyer glacier, there was a loud cracking sound. This signaled a carving of the ice from the face of the glacier. It sent ice crashing into the water with some force and in turn a wave was created that sent our boat rocking. Over the 45 minutes we were there, this braking up of the glacial ice happened four times. Looking out to the seals on the ice in this area, I wondered why they would stay on the ice so close to where this was happening, as it couldn't be a pleasant ride with all the rocking. As it happens, these seals love this area, for exactly that reason. As the ice hits the water, it mixes the water below, sending the seal's food source such as shrimp, closer to the surface. Basically the carving action brings dinner just one step closer to them – buffet service with a great view!



I

Teacher at Sea, Clare Wagstaff in front of South Sawyer glacier.

have had just the best time onboard the JOHN N. COBB. Although my cruise was much shorter than I had expected, I saw many wonderful things that I had never done so before. I think that if you have to be stranded anywhere for a week, Alaska seems like a pretty good option to me!